

Claim Amendments

Please amend the claims as follows:

1. (original) An apparatus for conducting chemical reactions wherein a plurality of drops of reagents are applied to the surface of a support in the form of an array, said apparatus comprising:

- (a) a chamber,
- (b) a gas inlet for introducing a gas into the interior of said chamber,
- (c) a device for dispensing drops of reagents for conducting said chemical reactions in fluid communication with said chamber, and
- (d) an opening in said chamber for exit of said gas, wherein said opening is designed to provide a contracting section, a section having substantially constant cross-sectional area and a diffusing section through said opening.

2. (original) An apparatus according to Claim 1 wherein contraction in said contracting section takes place over a region from about 0.15 to about 2 times the width of said section having substantially constant cross-sectional area.

3. (original) An apparatus according to Claim 1 wherein said diffusing section expands at a rate of about 0.08 to about 0.18 cm/cm.

4. (original) An apparatus for synthesizing a plurality of biopolymers on a support in the form of an array, said apparatus comprising:

- (a) a chamber,
- (b) a gas inlet for introducing a gas into the interior of said chamber,
- (c) a device for dispensing reagents for synthesizing said biopolymers in the form of an array, said device being in fluid communication with said chamber, and
- (d) an opening in said chamber for exit of said gas, wherein at least one wall of said opening is designed to provide a contracting section, a section having substantially constant cross-sectional area and a diffusing section through said opening.

5. (original) An apparatus according to Claim 4 wherein contraction in said contracting section takes place over a region from about 0.15 to about 2 times the width of said section having substantially constant cross-sectional area.

6. (original) An apparatus according to Claim 4 wherein said diffusing section expands at a rate of about 0.08 to about 0.18 cm/cm.

7. (original) An apparatus according to Claim 4 wherein said opening comprises a pair of side walls and both of said side walls of said pair are designed to provide a contracting section, a section of substantially constant cross-sectional area and a diffusing section through said opening.

8. (original) An apparatus according to Claim 4 further comprising a mechanism for moving said support into and out of said chamber and for positioning said support relative to said device for dispensing reagents.

9. (original) An apparatus according to Claim 8 further comprising a controller for controlling the movement of said mechanism for moving said support.

10. (original) An apparatus according to Claim 8 wherein said mechanism moves said support into and out of said chamber through said opening.

11. (original) An apparatus according to Claim 8 wherein said mechanism comprises a holding element for said support wherein said holding element is a low drag body having Reynolds numbers that are less than about 3000.

12. (original) An apparatus according to Claim 4 further comprising a manifold comprising at least two compartments, each of said compartments being in fluid communication with a respective gas inlet.

13. (original) An apparatus according to Claim 4 further comprising a mechanism for straightening the flow of a gas entering said gas inlet.

14. (original) An apparatus according to Claim 13 wherein said mechanism is a perforated element.

15. (original) An apparatus for synthesizing an array of biopolymers on a support, said apparatus comprising:

- (a) a chamber,
- (b) a gas inlet for introducing a gas into the interior of said chamber,
- (c) a device for dispensing reagents for synthesizing said biopolymers, said device being in fluid communication with said chamber,
- (d) an opening for exit of said gas, said opening comprising a pair of side walls, wherein at least one of said side walls is designed such that said opening comprises a contracting section, a section having substantially constant cross-sectional area and a diffusing section, wherein contraction in said contracting section takes place over a region from about 0.15 to about 2 times the width of said section having substantially constant cross-sectional area and wherein said diffusing section expands at a rate of about 0.08 to about 0.18 cm/cm and
- (e) a mechanism for moving said support into and out of said chamber through said opening and for positioning said support relative to said device for dispensing reagents, wherein said mechanism comprises a holding element for said support wherein said holding element is a low drag body having Reynolds numbers that are less than about 3000.

16. (original) An apparatus according to Claim 15 wherein both of said side walls of said pair of side walls comprise a contracting section and a diffusing section.

17. (original) An apparatus according to Claim 15 further comprising a controller for controlling the movement of said mechanism for moving said support.

18. (original) An apparatus according to Claim 15 further comprising a manifold comprising at least two compartments, each of said compartments being in fluid communication with a respective gas inlet.

19. (original) An apparatus according to Claim 15 further comprising a mechanism for straightening the flow of a gas entering said gas inlet, said mechanism comprising a perforated element.

Claims 20-45. (Canceled).

46. (original) A device comprising:

(a) a mechanism for moving a support into and out of a chamber and for positioning said support relative to a device for dispensing reagents to a surface of said support to form an array of biopolymer features thereon, said mechanism comprising a holding element for said support wherein said holding element is a low drag body having Reynolds numbers that are less than about 3000, and

(b) a controller for controlling the movement of said mechanism for moving said support.